

DE 03-013

**Public Service of New Hampshire, Granite State Electric,  
Unitil Energy Systems, and New Hampshire Electric Cooperative**

**Investigation into Advanced Customer Metering  
and Demand Response by  
Electric Distribution Companies**

**Prehearing Conference Order**

**O R D E R    N O.    24,170**

**May 12, 2003**

**APPEARANCES:** Gerald M. Eaton, Esq. for Public Service Company of New Hampshire; Mark Dean Esq. for the New Hampshire Electric Cooperative; Laura S. Olton. Esq. for Granite State Electric; Scott Mueller, Esq. for Unitil; Paul Gromer, Esq. for Constellation NewEnergy; Matthew T. Morais, Esq. for Strategic Energy LLC; Dan Delurey for Demand Response and Advanced Metering Coalition; H. Ward Camp for Distribution Control Systems, Inc.; Chris King for eMeter; Jackson Brandenburg and David Wechsler for Lanthorn Technologies; Ennett Kelly, Jr. for Itron; Pentti J. Aalto for PJA Energy Systems Design; Sierra Curtis-MacLane for New Hampshire Public Interest Research Group; Michael W. Holmes, Esq. for the Office of Consumer Affairs on behalf of Residential Ratepayers; and Suzanne Amidon Esq. for the Staff of the New Hampshire Public Utilities Commission.

**I.    PROCEDURAL HISTORY**

On January 31, 2003, the Public Utilities Commission (Commission) issued an Order of Notice initiating this proceeding to investigate the feasibility, benefits and costs of the installation of advanced customer metering equipment by electric distribution companies, including the effect on demand response due to the use of advanced metering technology. The Commission issued this order pursuant to its authority under NH RSA 374:7 and RSA 374-F:4,VIII(a).

The Order of Notice established a Prehearing Conference, which was held at the Commission offices on March 12, 2003. On February 10, 2003, the Office of Consumer Advocate (OCA) filed its intent to participate in this docket on behalf of residential utility consumers.

The Commission received several other motions to intervene in this docket. Laura S. Olton, Esq., filed a motion to intervene on behalf of Granite State Electric on February 26, 2003. H. Ward Camp filed a motion to intervene on behalf of Distribution Control Systems, Inc., a company that provides advanced metering systems to utilities nation-wide, on February 27, 2003. On March 4, 2003, Matthew T. Morais, Esq. filed a motion to intervene on behalf of Strategic Energy, LLC, a competitive retail electricity supplier. On March 6, 2003, Chris King filed a motion to intervene on behalf of eMeter, a supplier of advanced metering systems nationwide. Carrie Cullen Hitt filed a motion to intervene on behalf of Constellation NewEnergy, Inc. on March 7, 2003. David Wechsler of Lanthorn Technologies filed a motion to intervene on March 7, 2003. Finally, Pentti J. Aalto of PJA Energy Systems Designs, a developer of low-cost metering systems, filed a motion to intervene on March 7, 2003. At the Prehearing Conference,

Sierra Curtis-McLane moved to intervene on behalf of New Hampshire Public Interest Group.

## **II. POSITIONS OF THE PARTIES AND STAFF**

### **A. Public Service Company of New Hampshire**

PSNH indicated that it has implemented forms of advanced metering to the fullest extent demanded by its customers. Public Service Company of New Hampshire (PSNH) stated that it has installed so called "HeatSmart" advanced metering systems with 3,400 of its customers, representing 73 megawatts of winter space heating and water heating load, and 2.5 megawatts of summer water heating load that can be interrupted by radio signal. PSNH stated that the majority of its approximately 63,000 small commercial customers served under Rate G, have meters which record the peak demand level registered since the meter was last read. In addition, PSNH stated that approximately 1,500 of its large commercial and industrial (C&I) customers are equipped with Advanced Digital Interval Demand (ADID) meters. PSNH stated that only C&I customers falling under the rate GV and rate LG tariffs are eligible for ADID meters. PSNH stated that these meters are equipped with a modem to permit data retrieval from the meter using a phone line and computer hardware and software. PSNH

stated that the modem permitted reading demand and energy used in intervals of 30 minutes or less, giving these customers the latest metering technology.

**B. New Hampshire Electric Cooperative**

New Hampshire Electric Cooperative (NHEC) stated that it was interested in metering as part of its load control program. NHEC represented that approximately 5,741 of its members were on a load-control system of one type or another. NHEC said that it has approximately 2,000 polyphase meters of different types, serving different purposes, including demand readers, interval demand meters, and thermal demand meters. Of its 76,000 residential customers, NHEC stated that 2,500 have had meters retrofitted with automated reading features. NHEC also represented that it had implemented a seasonal difference in its power rates to represent the difference in wholesale pricing and market pricing between the summer and non-summer months.

NHEC stated that there were advantages to utilizing power line technology to transfer electricity consumption information over modems because such technology could produce hourly kilowatt load data for demand response programs. NHEC stated that it was investigating the implementation of this type

of technology because it would allow for recording and storing hourly kW load data and allow for the implementation of demand response initiatives.

NHEC advocates that advanced metering should be broadly implemented and that it hoped to have all its members served by some form of advanced metering within the next three years. NHEC submitted that the Commission does not have the authority to regulate NHEC with respect to the subject matter of this docket, and that NHEC's participation should not be construed as conceding jurisdiction to the Commission. NHEC specifically reserved its rights with respect to this issue.

### **C. Granite State Electric**

Granite State Electric (GSE) stated that it will draw on the experience of its affiliates in New York and Massachusetts which currently offer advanced metering to consumers in those states. GSE stated that its largest customers on the G-1 rate have interval meters, though it does not currently have a tariff that offers any enhanced metering options.

GSE further stated that to the extent its customers or competitive power suppliers doing business in New Hampshire seek to obtain more frequent and timely access to customer load

information, GSE is prepared to provide such metering-related services.

**D. Unitil Energy Systems**

Unitil Energy Systems (UES) stated that it has fifteen-minute interval metering which utilizes modem reading capabilities for some large customers. UES asserted that its new tariffs contain provisions for both enhanced metering services and interval data services.

With respect to currently installed advanced metering, UES stated that it had installed digital meters with mass memory capability for all of its 151 Large General Service G1 customers, and that these meters offer pulse and modem capability. UES stated that it plans to participate fully in this docket and anticipates that the time spent will be beneficial in assessing the benefits and costs of providing customers the ability to obtain electric generation service under pricing options more closely tied to market prices.

**E. Connecticut Valley Electric Company**

Connecticut Valley Electric Company (CVEC) provided a letter stating that it would participate in this docket, but in light of its pending application before the Commission for the

acquisition of its assets by PSNH in Docket DE 03-030, it will defer to PSNH's position with respect to the instant docket.

**F. Constellation NewEnergy**

Constellation NewEnergy (CNE) identified itself as a competitive electric supplier that provides demand response service. CNE stated that its advanced metering service provides readings at 15 minute intervals, but that the information was not generally available to customers until the day following the day for which data was collected. CNE stated that this information must be communicated to the customer to stimulate demand response behavior. CNE further stated that the level of metering determines what rate options can be available, what level of demand response services can be provided, and what level of energy management services can be offered. CNE stated that the docket required a clear definition of advanced metering, an analysis of what is available and at what costs, and alternative pricing structures, such as time-of-use rates, to help achieve desired demand response behaviors. CNE stated that it was committed to providing advanced metering to large commercial and industrial customers, but also is interested in making it available to smaller and smaller business customers.

**G. Strategic Energy**

Strategic Energy stated that it sees significant value in advanced metering and believes all utilities should have advanced metering tariffs. Strategic Energy further stated that it supports the availability of advanced metering as an optional service for customers.

**H. Demand Response and Advanced Metering Coalition**

The Demand Response and Advanced Metering Coalition (DRAM) is a coalition of utilities, metering and communication companies, as well as public interest groups. DRAM stated that it believed the benefits of advanced metering should be evaluated in the context of the new potential benefits it brings in terms of demand response outcomes, benefits of the information to the utility, and benefits on a regional basis to the transmission network. DRAM also stated that in order to have certain types of demand response, such as dynamic pricing options, it is necessary to have an advanced meter to enable customers to participate.

**I. Distribution Control Systems, Inc. (DCSI)**

Distribution Control Systems, Inc. (DCSI) stated that it supports both load-control technology and advanced meter reading. DCSI further stated that it could assist the



Commission in this docket as it provides advanced metering systems to utilities nation-wide.

**J. PJA Energy Systems Design**

PJA Energy Systems Design stated that small customers need access to the market benefits of advanced metering and real-time pricing. PJA Energy Systems Designs stated that it may be best to have the utilities offer this service, not the competitive market. PJA Energy Systems Design also asserted that advanced metering may be more effective if first be offered as an optional service to customers.

**K. New Hampshire Public Interest Research Group**

New Hampshire Public Interest Research Group (NHPIRG) stated that it would participate in this docket because of the potential for advanced metering to lower electric rates for consumers and reduce energy-related problems. NHPIRG stated it planned to submit written testimony.

**L. Lanthorn Technologies**

Lanthorn Technologies stated that it has software that can be applied to advanced metering and demand response technologies. Lanthorn Technologies further stated that it would be happy to share what they have learned with the Commission. Lanthorn Technologies asserted that it hoped the

Commission will consider creating a climate that supports utilities and ratepayers taking advantage of the various metering technology already in the marketplace.

**M. Itron, Inc. (Itron)**

Itron stated that it is a provider of advance metering technology and supports the use of advanced metering by all classes of customers. Itron stated that providing information related to energy use will help customers in making choices related to their energy use. Itron offered its technical support in this docket.

**N. Office of Consumer Advocate**

The Office of Consumer Advocate stated that it would participate in the proceeding on behalf of residential retail customers. OCA stated that they were participating in this docket to explore whether advanced metering would help residential customers participate in the competitive energy market. OCA indicated that it was not knowledgeable about metering, but hoped that it would learn more as this docket progressed and provide a meaningful recommendation to the Commission at the conclusion of this docket.

**O. Staff**

Staff stated that this docket should include all aspects of advanced metering, including the costs and benefits of various technologies and who should serve this emerging market, but should not limit what technologies are to be employed. Staff indicated that it was also interested in how the use of advanced metering technologies could influence customer choice as the retail electricity markets evolve.

**III. PROCEDURAL SCHEDULES**

A letter from Staff to the Commission's Executive Director indicated that following the Prehearing Conference, the parties and Staff met in a Technical Session and agreed upon a schedule. Subsequently, the Commission asked Staff to re-examine procedural schedule issues.

Staff has proposed that this proceeding be conducted in two phases: the first phase would concentrate on commercial and industrial customers and the second phase would focus on residential customers. Staff suggested a procedural schedule employing extensive facilitated negotiation.

**IV. COMMISSION ANALYSIS**

We have reviewed the proposed procedural schedule and determined that it may not be best suited to bringing about an

efficient resolution of the issues in this docket. We find it preferable to create a structure that focuses the participants' activities in the first instance on producing a concrete plan, or plans, for implementing suitable advanced metering technology. Accordingly, we direct each distribution company to submit to the Commission by June 30, 2003, an advanced metering proposal for commercial and industrial customers. Such proposals should include a consideration of the maximum cost-effective demand response achievable with the introduction of new metering technologies and associated demand response opportunities. We encourage the distribution companies to collaborate in developing their proposals with the goal of filing a single plan that could be implemented uniformly across all service territories.

We further direct the companies to address certain issues in connection with advanced metering. The plans should evaluate the benefits and costs of mandatory, versus voluntary, participation for commercial and industrial customers, and plans should consider interval metering with mass memory capacity. We ask that the participants address whether such meters should be day-before, real-time, or other in transmitting price signals to customers.

In addition, the companies should consider an implementation schedule which addresses the feasibility of uniform roll-out dates, and joint customer education and advertising. We further request that the proposals address participant's analysis of the following issues:

1. Identify and describe the potential benefits and detriments associated with mandatory real time pricing (RTP) for RTP customers, customers in general and the utilities. Whether voluntary or mandatory, should there be a specified term for the program and would contractual agreements be needed? Should all of the customer's load be subject to the RTP or day-ahead price or only a specified level above a pre-determined base level?
2. State whether there are specific classes or subclasses of C&I customers for whom mandatory RTP would be most and least appropriate and set forth reasons for the positions taken.
3. Explain what actions, if any, are necessary to expand the installation of interval meters and to provide state-of-the-art interval meters.

4. Explain whether the companies anticipate any shift of costs to non-C&I ratepayers if mandatory interval meters and demand response programs were implemented for all C&I customers.

5. Describe rate design options other than mandatory RTP that might achieve similar load and price reduction objectives.

6. Explain what measures should be taken to assure uniformity in reporting and comparability of data among the companies.

While parties may propose alternatives to distribution company implementation, distribution companies will likely continue to be the primary providers of metering to retail customers, and will continue to have responsibility to ensure that metering of throughput is correctly recorded. Nonetheless, proposals to comply with this order should not create disincentives for competitive energy suppliers to participate in advanced metering for their customers.

The following procedural schedule will apply thereafter:

Technical session on proposals: July 15 and 16, 2003

Comments on proposals or  
submission of alternative plans: August 1, 2003

Technical session on alternative plans:	August 12 and 13, 2003
Legislative style hearings:	September 3 and 4, 2003

We will explore the opportunities for advanced metering and related demand management programs for smaller consumers in further proceedings. For all customer classes, we expect that this docket will provide the Commission with options to consider that are variously designed to improve pricing signals, to offer interactive demand management features, and to improve customer billing.

Finally, we will grant the pending motions to intervene.

**Based upon the foregoing, it is hereby**

**ORDERED**, that the procedural schedule as proposed herein is reasonable and is hereby adopted; and it is

**FURTHER ORDERED**, that the pending motions to intervene are granted.

By order of the Public Utilities Commission of New  
Hampshire this twelfth day of May, 2003.

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Thomas B. Getz  
Chairman

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Susan S. Geiger  
Commissioner

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Nancy Brockway  
Commissioner

Attested by:

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Debra A. Howland  
Executive Director & Secretary